

IN THE CLAIMS:

1. (Canceled)
2. (Canceled)
3. (Canceled)
4. (Currently Amended) The rotating machine of claim + 27, wherein each of the plurality of conductive rotor bars have the at least one second internal conduit.
5. (Currently Amended) The rotating machine of claim + 27, wherein the at least one first internal conduit comprises two first internal conduits, each extending from the first to second end of the conductive rotor bars.
6. (Currently Amended) The rotating machine of claim 3 27, wherein each of the plurality of conductive rotor bars have the two first internal conduits.
7. (Currently Amended) The rotating machine of claim + 27, wherein the plurality of conductive rotor bars and first and second end plates are fabricated from aluminum and where the means for sealingly fixing the first and second ends of each conductive rotor bar having the at least one first internal conduit comprises a brazed joint at the juncture between each of the first and second ends of each conductive rotor bar having the at least one first internal conduit and their respective end plate.
8. (Currently Amended) The rotating machine of claim 7, wherein the brazed joint comprises a salts brazed joint.

9. (Currently Amended) The rotating machine of claim 4 27, wherein the first internal conduit is cylindrical and located at an area of increased cross-section of each conductive rotor bar having the at least one first internal conduit.

10. (Original) The rotating machine of claim 5, wherein each of the two first internal conduits is cylindrical, at least one of which is located at an area of increased cross-section of each conductive rotor bar having the two first internal conduits.

11. (Currently Amended) The rotating machine of claim 3 27, wherein the first and second end plates are sealingly fixed to the rotating shaft by means of first and second o-ring seals disposed on either side of its respective coolant hole.

12. (Currently Amended) The rotating machine of claim 3 27, wherein the plurality of conductive rotor bars are located in position relative to the first and second end plates by insertion of their respective first and second ends into corresponding counterbores on the end plates.

13. (Currently Amended) The rotating machine of claim 3 27, wherein each of the first and second end plates further has an access groove disposed in a fluid path of the third and fourth internal conduits, respectively, for facilitating the fabrication of the third and fourth internal conduits, and wherein the first and second end plates each further comprise a cover plate sealingly covering its respective access groove.

14. (Original) The rotating machine of claim 13, wherein each of the cover plates sealingly cover their respective access grooves by means of a brazed joint at the juncture between each of the cover plates and their respective access groove.

15. (Original) The rotating machine of claim 14, wherein the brazed joint comprises a salts brazed joint.

16. (Currently Amended) The rotating machine of claim 2 27, further comprising:

a circulation conduit connecting the inlet end of the rotating shaft to the outlet end of the rotating shaft; and

a pump disposed in a fluid path of the circulation conduit for establishing a coolant flow into the inlet end, through the first and second internal conduits for each conductive rotor bar having the at least one first internal conduit, and out the outlet end.

17. (Original) The rotating machine of claim 16, further comprising a heat exchanger disposed in the fluid path of the circulation conduit for removing heat from the coolant flowing therein.

18. (Currently Amended) The rotating machine of claim 3 27, wherein the circulation means comprises a full restriction plug disposed in the second internal conduit between the first and second coolant holes thereby diverting all of the coolant flow through the first, third, and fourth internal conduits for each conductive rotor bar having the at least one first internal conduit.

19. (Currently Amended) The rotating machine of claim 3 27, wherein the circulation means comprises a partial restriction plug disposed in the second internal conduit between the first and second coolant holes thereby diverting a portion of the coolant flow through the first, third, and fourth internal conduits for each conductive rotor bar having the at

least one first internal conduit, whereby the remaining portion of the coolant flow continues through the second internal conduit.

20. (Currently Amended) The rotating machine of claim †27, wherein the at least one intermediate member comprises a plurality of parallel stacked laminates, each laminate having a central bore for acceptance of the rotating shaft therein and a slot corresponding to each of the plurality of conductive rotor bars for acceptance of each of the plurality of conductive rotor bars therein.

21. (Currently Amended) The rotating machine of claim 3 27, wherein each of the first and second end plates further has a groove communicating with the first and second coolant holes, respectively, and each of the third and fourth conduits, respectively, for each conductive rotor bar having the at least one first internal conduit.

22. (Canceled)

23. (Canceled)

24. (Canceled)

25. (Canceled)

26. (Canceled)

27. (Previously Added) A rotating machine comprising:
a rotating shaft;

a plurality of conductive rotor bars spaced from the rotating shaft and fixed thereto through at least one intermediate member, at least one of the plurality of conductive rotor bars having at least one first internal conduit; and

circulation means for establishing a coolant circulation through the first internal conduit;

wherein the rotating shaft having a first wall defining a second internal conduit extending from an inlet end to an outlet end thereof, the rotating shaft further having first and second coolant holes in the first wall and communicating with the second internal conduit, wherein the coolant is circulated through the first internal conduit from the second internal conduit by way of the first and second coolant holes;

wherein each of the plurality of conductive rotor bars having a first and second end, the at least one first internal conduit extending from the first to second end; the rotating machine further comprising:

a first end plate having a first bore in which the rotating shaft is sealingly fixed in proximity to the first coolant hole, the first end plate further having means for sealingly fixing the first end of each conductive rotor bar having the at least one first internal conduit thereto, the first end plate further having a third internal conduit for each of the plurality of conductive rotor bars having the at least one first internal conduit for providing communication between the first coolant hole and the first end of the first internal conduit; and

a second end plate having a second bore in which the rotating shaft is sealingly fixed in proximity to the second cooling hole, the second end plate further having means for sealingly fixing the second end of each conductive rotor bar having the at least one

first internal conduit thereto, the second end plate further having a fourth internal conduit for each of the plurality of conductive rotor bars having the at least one first internal conduit for providing communication between the second coolant hole and the second end of the first internal conduit;

wherein the circulation of coolant is established through the first, second, third, and fourth internal conduits for each conductive rotor bar having the at least one second internal conduit.

28. (Canceled)